# Baird-Parker Agar | AS-1130

To identify and count *Staphylococcus aureus* in food and medication materials.

Baird Parker Agar is a selective and differential medium primarily used for isolating and presumptively identifying coagulase-positive *staphylococci*, particularly *Staphylococcus aureus*, in food and pharmaceutical samples.

The medium's base provides essential nutrients like nitrogen and vitamins through casein peptone, meat extract, and yeast extract. To inhibit competing microorganisms, lithium chloride and potassium tellurite are incorporated. Glycine and pyruvate enhance the growth of *staphylococci*.

The addition of egg yolk emulsion imparts differential characteristics. Coagulase-positive *staphylococci* exhibit characteristic grey to black colonies surrounded by a clear zone due to lipase activity and an opaque halo resulting from coagulase-mediated fibrinogen conversion to fibrin. This combination of colony morphology and halo formation is strongly indicative of coagulase positivity.

For definitive coagulase confirmation, Rabbit Plasma Fibrinogen can be incorporated into the medium. However, the presence of the opaque halo is often sufficient for presumptive identification.

It's important to note that while Baird Parker Agar effectively inhibits many contaminants, the addition of sulfamethazine can further suppress the growth of Proteus species.

**Composition (gr/L)**

| | |
|---|---|
| Pancreatic Digest of Casein | 10 |
| Beef Extract | 5 |
| Yeast Extract | 1 |
| Glycine | 12 |
| Sodium Pyruvate | 10 |
| Lithium Chloride | 5 |
| Agar | 15 |
| Final pH at 25°C | 6.8 ± 0.2 |

**Preparation**

Dissolve 58 g of the powder into a 950 mL distilled water. Autoclave for 15 minutes at 121°C. Aseptically add 50 mL of egg yolk tellurite enrichment after cooling to 45–50°C. Gently but completely mix.

**Quality Control**

Dehydrated Appearance: Light tan, free-flowing, homogeneous.
Prepared Appearance: Yellow, opaque.
Reaction of 5.8 % Solution at 25°C: pH 6.8 ± 0.2

**Microbial Test Results**

For 42 to 48 hours, incubate at 35 ± 2°C and read after 18-24 and 42-48 hours.

| Organism (ATCC) | Recovery | Colony Color | Clear zones |
|---|---|---|---|
| *Bacillus subtilis (6633)* | None to poor | Brown | - |
| *Staphylococcus aureus (25923)* | Good | Black | + |
| *Proteus mirabilis* (25933) | Good | Brown | - |
| *Escherichia coli* (8739) | Inhibited | - | - |

**Storage**

Keep the container at 15-30 °C and prepared medium at 2-8 °C.